

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. - 28. (Cancelled)

29. (New) A head support mechanism, including:

 a slider having a magnetic head attached thereto, for recording data to and/or reproducing data from a magnetic disk;

 a slider holding plate for holding the slider;

 a pair of substrates each having a piezoelectric element attached thereto;

 elastic hinges for connecting the slider holding plate and the pair of substrates; and

 a dimple for supporting the slider holding plate such that the slider holding plate is rotatable in all directions,

 wherein the slider is rotated around said dimple by a small amount of contraction and/or expansion of at least one of the piezoelectric elements; and wherein the position of said dimple either coincides with the center of gravity of a portion including said slider holding plate and said slider which is rotatable by a small amount around said dimple as a rotating axis, or is located between the center of gravity of said portion and said head.

30. (New) A head support mechanism according to claim 29, wherein said dimple rotatably supports said slider holding plate in all directions including a pitch direction, a roll direction, and a yaw direction.

31. (New) A head support mechanism according to claim 29, wherein each of the pair of piezoelectric elements is stacked on the corresponding substrate and at least one of the pair of substrates is bent by a bimorph effect accompanying the contraction and expansion of at least one of the piezoelectric elements, so as to rotate the slider holding plate by a small amount.

32. (New) A head support mechanism according to claim 29, wherein said dimple is provided in a tip portion of a load beam for supporting the slider holding plate.

33. (New) A head support mechanism according to claim 31, wherein the load beam includes a pair of regulation portions for regulating the rotation of the slider holding plate.

34. (New) A head support mechanism according to claim 29, wherein root portions of the pair of substrates of said substrate are integrally formed.

35. (New) A head support mechanism according to claim 29, wherein the pair of substrates and the elastic hinges are formed of an identical material.

36. (New) A head support mechanism according to claim 29, wherein:

the slider has an air bearing surface so as to face the magnetic disk, the air bearing surface forms an air lubricating film between the magnetic disk and the slider while the magnetic disk is rotating, and the slider is rotated around a center position of the air bearing surface by the contraction and expansion of at least one of the piezoelectric elements.

37. (New) A head support mechanism according to claim 29, wherein the pair of substrates and the piezoelectric elements are coated with resin so as to be integrated together.

38. (New) A head support mechanism according to claim 29, wherein the pair of substrates and the elastic hinges have a conductor pattern for transferring a recording signal and a reproduction signal to and from the magnetic head attached thereto.

39. (New) A head support mechanism, comprising:

a slider having a magnetic head attached thereto, for recording data to and/or reproducing data from a magnetic disk;

a substrate having a slider support portion, a pair of transformation operation portions, and a pair of elastic hinge portions for connecting the slider support portion and the pair of transformation operation portions, respectively;

a slider holding plate for holding the slider via the slider support portion of the substrate;

a pair of piezoelectric elements each respectively mounted on the pair of transformation operation portions of said substrate; and

a load beam for supporting the slider holding plate via a dimple provided in a tip portion thereof, such that the slider holding plate is rotatable in all directions,

wherein the slider is rotated around the dimple by a small amount by contraction and/or expansion of at least one of the piezoelectric elements; and wherein the position of said dimple either coincides with the center of gravity of a portion including said slider holding plate and said slider which is rotatable by a small amount around said dimple as a rotating axis, or is located between the center of gravity of said portion and said head.

40. (New) A head support mechanism according to claim 39, wherein said dimple rotatably supports said slider holding plate in all directions including a pitch direction, a roll direction, and a yaw direction.

41. (New) A head support mechanism according to claim 39, wherein each of the pair of piezoelectric elements is stacked on the corresponding conductor substrate portion of the substrate, and at least one of the pair of conductor substrate portions is bent by a bimorph effect accompanying the contraction and expansion of at least one of the piezoelectric elements, so as to rotate the slider holding plate by a small amount.

42. (New) A head support mechanism according to claim 39, wherein root portions of the pair of conductor substrate portions of said substrate are integrally formed.

43. (New) A head support mechanism according to claim 39, wherein:

the slider has an air bearing surface so as to face the magnetic disk, the air bearing surface forms an air lubricating film between the magnetic disk and the slider while the magnetic disk is rotating, and the slider is rotated around a center position of the air bearing surface by the contraction and expansion of at least one of the piezoelectric elements.

44. (New) A head support mechanism according to claim 39, wherein the load beam includes a pair of regulation portions for regulating the rotation of the slider holding plate.

45. (New) A head support mechanism according to claim 39, wherein the pair of conductor substrate portions of the substrate and the piezoelectric elements are coated with resin so as to be integrated together.

46. (New) A head support mechanism according to claim 39, wherein the pair of conductor substrate portions and the pair of elastic hinge portions have a conductor pattern for transferring a recording signal and a reproduction signal to and from the magnetic head attached thereto.

Respectfully submitted,

Daniel N. Calder

Daniel N. Calder, Reg. No. 27,424
Attorney for Applicants

DNC/vj

Dated: November 10, 2003

<input checked="" type="checkbox"/> P.O. Box 980 Valley Forge, PA 19482 (610) 407-0700
<input type="checkbox"/> P.O. Box 1596 Wilmington, DE 19899 (302) 778-2600

EXPRESS MAIL

Mailing Label Number:

EV351885030US

Date of Deposit:

November 10, 2003

I hereby certify that this paper and fee are being deposited, under 37 C.F.R. § 1.10 and with sufficient postage, using the "Express Mail Post Office to Addressee" service of the United States Postal Service on the date indicated above and that the deposit is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Kathleen Libby

Kathleen Libby